U.S. Environmental Protection Agency
Region IX

Summary of Comments and Responses on the Proposed Garcia River Sediment Total Maximum Daily Load dated January 29, 1998

March 16, 1998

EPA Responses to Comments on the Proposed Garcia River Sediment Total Maximum Daily Load dated January 29, 1998
Part 1
March 16, 1998

In general, the comments in this summary were reiterated verbatim. In a few instances, comments were paraphrased either because of the length of the comment or where comments were interspersed with background information.

Comments dated March 2, 1998 from the North Coast Regional Water Quality Control Board

1. The Basin Plan includes an "Estuarine Habitat" beneficial use which applies to the Garcia River watershed. This beneficial use should be included in Table 1, page 9 of the proposed EPA TMDL.

RESPONSE: The "Estuarine Habitat" beneficial use has been added to the final EPA TMDL.

2. The Basin Plan includes water quality objectives for turbidity and suspended material. While the proposed Garcia River Watershed Water Quality Attainment Strategy for Sediment (December, 1997) (State's Strategy) does not directly address the issues of turbidity and suspended material, implementation of the Strategy is expected to result in improvements to the levels of turbidity and suspended material within the watershed. As such, the water quality objectives for these parameters should be referenced in the proposed EPA TMDL.

RESPONSE: EPA disagrees. As noted, the State's Strategy does not identify turbidity and suspended material as issues of concern in the problem statement. Rather the problem of concern is bottom deposition of sediment. The State's 1996 Section 303(d) list identifies siltation as the pollutant of concern for the Garcia River. EPA interprets siltation to mean bottom deposition of sediment, since there are other waters listed specifically for turbidity.

3. Page 13, Instream Problem Statements, Specific Problem Statement 1. Sub-statement #2 includes improperly installed culverts which provide either a poor starting location, require too high a jump for anadromous fish to successfully navigate, or reduce the depth of the water. The last sentence of specific problem statement #1, however, says that the sediment TMDL does not address anthropogenic barriers associated with culverts. This inconsistency should be resolved.

RESPONSE: EPA included the discussion on anthropogenic barriers since these are clearly one cause of barriers to fish migration in the Garcia River. That said, EPA guidance (August 27, 1997) specifies that in the specific case of a physical barrier to fish migration such as a culvert, there is no pollutant to allocate and the TMDL process is not required. While EPA does not address anthropogenic barriers in this TMDL, this does not preclude the State from addressing these in the State TMDL and implementation process.

4. Regional Water Board staff recommend that anthropogenic barriers due to culverts be included as part of the numeric target for barriers.

RESPONSE: The EPA TMDL does not include a numeric target for barriers (see discussion in response to comment #3). The EPA TMDL states that the MIGRATION beneficial use is expected to be met through attainment of the V* numeric target.

5. EPA has assessed the McNeil data for fines <0.85 mm and fines <6.5 mm collected in the Garcia River watershed by averaging all of the values measured throughout the basin and throughout time and comparing the resulting figures to the proposed numeric targets. Similarly, EPA has compared the V* and D50 values measured from one tributary to the numeric targets as a means of determining the degree to which V* and D50 values for the whole basin must be reduced. Regional Water Board staff do not support this assessment method as it does not take into account the difference between sampling locations and sub-basins, nor does it consider the differing rates of sediment delivery estimated for each sub-basin.

RESPONSE: The Regional Board staff, in developing the Strategy, developed numeric targets on a whole-basin scale, citing the inability to develop more site-specific targets due to a lack of site-specific instream information. Therefore, EPA compared the basin-wide targets with our best analysis of all the data for the basin. In EPA's linkage analysis, we clearly state that the comparison of existing information to numeric targets to derive basin-wide sediment reductions is based on limited existing data. As further data is produced, it may be appropriate to modify this TMDL to reflect new information.

6. EPA uses this assessment method as one of three methods for deriving source allocations. Regional Water Board staff recommend that EPA eliminate this method and rely on the other two methods for deriving source allocations.

RESPONSE: As the State notes in its comment, the assessment method of comparing existing instream data to targets to derive percent reductions is one of three methods used by EPA. The EPA chose to use multiple methods for several reasons. The State provided a qualitative analysis of possible linkage of upslope sediment reductions to instream numeric targets. EPA supplemented this method with two quantitative approaches, using a weight of evidence approach to determine appropriate percent reduction targets. While EPA acknowledges that both of the quantitative methods are limited due to a limited amount of available data, the analysis showed that both methods provided very similar results regarding the percentage reduction targets. EPA feels that removing the assessment method suggested by the State would result in less confidence in the linkage analysis results.

7. Table 7 and Table 8 identify the numeric targets for V* and D50. The targets should be identified as less than or equal to 0.21 and less than or equal to 69 mm, respectively.

RESPONSE: Table 7 and Table 8 have been changed to incorporate the "or equal to" sign. EPA believes the State in its comment meant that for D50 the sign should be "greater than" or equal to.

8. The proposed EPA TMDL includes specific problem statements related to rearing habitat, pool formation, and stream channel structure, among other problems. And yet, the proposed

numeric targets do not address each of the problems identified. For example, there are no rearing habitat nor stream channel structure targets proposed. Regional Water Board staff recommend that at a minimum, the State's proposed pool-related parameters and thalweg profile targets be incorporated into the EPA's final TMDL.

RESPONSE: The final EPA TMDL incorporates a numeric target for pool frequency. In adding this target, EPA took into account that the State's Strategy provided a final target for this parameter, the Strategy included actual data on this parameter in the Garcia River and this parameter will help identify whether rearing conditions have improved. EPA is not including thalweg profile since this indicator is not as well supported in the literature as providing good linkage to habitat conditions which support salmonids; moreover, the State Strategy did not include a final target for this parameter. EPA believes the number of parameters and corresponding targets chosen are adequate for establishing a sediment TMDL since EPA guidance (Watershed Protection TMDL Note #3 TMDL Endpoints, September, 1994) notes that it is best to begin the numeric target selection process by recalling that a single TMDL requires only one measurable endpoint. EPA chose a suite of targets which EPA believes are the most supported by literature as indicators that are easily linked to salmonid conditions and can be used to evaluate the long term impacts of upslope activities.

9. Regional Water Board staff also believe that evaluating improving trends in large woody debris volume is a parameter worthy of consideration.

RESPONSE: While EPA agrees that large woody debris (LWD) is an essential component of channel structure, we do not necessarily agree that this indicator is as easily linked to sediment changes instream. The State may chose to address LWD in the State Strategy either through target selection, implementation measures and/or monitoring to ensure the amount of LWD is increasing over time.

10. EPA references or implies that Louisiana Pacific (L-P) is the author of the sediment budget for the basin which results in an estimate of 1,380 tons/mi2/yr. PWA is the actual author of the estimate. The estimate was based on data submitted by L-P.

RESPONSE: EPA has changed the references in TMDL to reflect that sediment information was developed by PWA based on a number of sources, including L-P.

11. On page 33, EPA applies a one-to-one correspondence between sediment source reductions needed and reductions in stream sediment levels as derived from a comparison of average McNeil, V* and D50 values to the proposed numeric targets. This correspondence is identified as "conservative." The notion that such a presumed relationship is conservative is not supported by the discussion. Regional Water Board observe that small inputs of sediment can have disproportionally large local impacts which exceed the 1:1 relationship described by EPA.

RESPONSE: EPA's assumption is that the minimum amount of sediment reduction needed to attain water quality standards is indicated by this comparison. Since neither the State Strategy nor other literature of which we are aware identifies site specific sources of sediment, EPA was

not able to make more specific assumptions on the relationship ratio. In addition, since the EPA TMDL is set at a basin-scale, the 1:1 comparison is appropriately conservative at the scale, especially given the improvements in upslope mass wasting loading rate in the recent past. As discussed above, EPA is determining the needed reductions based on both a comparison between instream targets and current conditions and a comparison with sediment loading in reference streams.

12. Regional Water Board staff do not support the use of data presented in the State's Strategy for the purpose of calculating a numeric linkage between instream and hillslope sediment delivery reduction requirements. Regional Water Board staff do not believe that the current data set supports such a calculation. In addition, Regional Water Board staff do not believe that the identified analytical procedure accurately depicts real geomorphological processes.

RESPONSE: While EPA agrees that the current set of instream data presented in the Strategy was very limited, the EPA used the best methodology known to EPA at this time to establish a linkage between the hillslope and instream conditions. See also response to comments 6 and 11.

13. EPA proposes to exclude specific source allocations for agriculture-related sediment from streambank and gully erosion based on the conclusion that these sources are minimal and that the State's Strategy addressed them. It should be noted that streambank and gully erosion associated with agricultural operations are likely to be minimal as compared to the impacts of timber operations and roads on a basin-wide basis. However, streambank and gully erosion from agricultural operations are nonetheless likely to be locally significant sources, particularly if associated with valuable refuge habitat.

RESPONSE: EPA concluded that these sources are minimal based on the PWA and Regional Board's assessment that these sources were minimal. In addition, PWA does not quantify these sources. While a TMDL should consider all discharges of a pollutant, neither the Clean Water Act nor its implementing regulations requires that a TMDL set wasteload allocations for all point sources or load allocations for all nonpoint sources. Since these sources had not been quantified and the State noted that they are minimal, EPA determined it was not necessary to assign allocations to these sources. In addition, while EPA agrees with the State that these sediment sources may be locally significant sources, the TMDL is established at the basin-wide scale due to lack of more site specific data on sediment sources. Finally, EPA supports the California Rangeland Management Plan as one mechanism to address these locally significant sediment sources. See also response to number 16 below.

14. In addition, the source allocations recommended in the State's Strategy are based on an estimate of the likely success of known mitigation measures to control sediment delivery. The proposed EPA TMDL purports to be based on this analysis. If the State's proposed method is appropriate for timber operations, Regional Water Board staff believe it should be appropriate for agricultural operations as well.

RESPONSE: EPA's allocations are based in part on the estimate of likely success of known mitigation measures. EPA's understanding is that the State's TMDL does not provide allocations

for non-road related agricultural sources of sediment because these sources have not been quantified. EPA followed this same approach. For road related sources of sediment, EPA intends that these allocations apply to all land uses which contribute to road related sediment including agriculture. This has been clarified in the TMDL.

15. Further, EPA can not rely on the State's Strategy which has not yet been through the public hearing process, as the means for addressing agriculture related sediment delivery. There may be substantial changes to the proposed Strategy prior to its submittal to the State Water Resources Control Board, Office of Administrative Law and the U.S. EPA for final approval.

RESPONSE: While EPA agrees with this comment, EPA nonetheless believes that the TMDL allocations are sufficient to meet water quality standards. If the State, over time, develops specific, quantified source analyses for non-road related agricultural activities, the TMDL could be amended to include allocations for these sources.

16. Finally, by including agriculture-related sediment delivery in the margin of safety, the source allocation which would fairly be attributed to agricultural operations appears instead to be re-allocated to timber operations. Such a re-allocations can not be viewed as equitable.

RESPONSE: EPA has determined that it is appropriate to increase the margin of safety (MOS) used to calculate this TMDL in order to essentially establish a "reserve" for the unassessed sources, including those related to agricultural activities. As noted in the Linkage Analysis section of the TMDL, EPA preliminarily determined that the total allowable annual sediment production should be approximately 615 tons/mi2/yr. Of this, a portion could be set aside as a "reserve" for unquantified uses such as agricultural activities other than roads. Rather than specifying an explicit reserve in tons/mi2/yr, EPA has increased the MOS and is requiring a 60% reduction, which results in a total allocation of 552 tons/mi2/yr, for those sources for which allocations are established. As more site-specific data becomes available it may be appropriate to re-allocate the "reserve" which is currently part of the MOS.

17. Regional Water Board staff recommend that EPA include agriculture-related source allocations for streambank and gully erosion.

RESPONSE: See response to comment 16.

18. The proposed EPA TMDL uses the Sediment Delivery Reduction Requirements developed by Regional Water Board staff but applies them to the preliminary sediment budget for this basin. This results in an allocation in tons/mi2/yr which Regional Water Board staff believe may be significantly underestimated given the nature of the preliminary sediment budget. Regional Water Board staff strongly believe that the 90% and 50% Sediment Delivery Reduction Requirements must be applied to site specific sediment delivery site inventories - not the preliminary sediment budget. Moreover, the Regional Water Board staff's intent in our Strategy is to target the mitigation actions, since those have the highest certainty, and specifically not to target tons/mi2/year in the allocations.

RESPONSE: EPA disagrees. The regulations require that TMDLs be established at levels necessary to attain and maintain the applicable narrative and numeric WQS (40 CFR 130.7). The TMDLs are to be developed using the best information available. Since the PWA source analysis is the best information available on the sediment inputs into the Garcia River, EPA believes that setting allocations based on this information is appropriate. In addition, the regulations at 40 CFR 130.2 state that TMDLs can be expressed in terms of either mass per time, toxicity or other appropriate measure. Therefore, EPA is establishing this TMDL in terms of tons/mi2/yr. This approach does not preclude the State's appropriate desire to target mitigation actions in their implementation plan.

19. The proposed EPA TMDL references the State's Strategy with regard to data collection and the reduction of analytical uncertainty over time. As above, EPA can not rely on the State's Strategy which has not yet been through the public hearing process, as the means for collecting monitoring data for this purpose, particularly if EPA's proposed TMDL is not a phased TMDL. There may be substantial changes to the State's proposed Strategy prior to its submittal to the State Water Resources control Board, Office of Administrative Law and the U.S. EPA for final approval.

RESPONSE: The EPA TMDL sets targets and allocations which meet the statutory and regulatory requirements of a TMDL. If the State chooses to adopt a phased TMDL for the Garcia River, then the expectation is that the State and landowners will monitor and review the TMDL over time to make the appropriate adjustments based on more specific information. EPA's discussion of the desirability of follow-up monitoring is intended to support the State's proposed phased approach, but was not intended to treat that proposed approach as final or unchangeable.

<u>Comments dated February 27, 1998 from the Albion River Watershed Association</u>

20. Unless the issue of implementation is addressed, this document is an academic exercise and not worth much more than the paper it is printed on. I realize that issues pertaining to land use policy are usually the purview of local or state governments. However, given the history of the issues and the condition of all of the coastal streams and rivers, I think it is incumbent that EPA be proactive in this area and at least produce a "road map" that the appropriate government agencies could follow.

RESPONSE: Implementation of the TMDL, once established, will ensure that the water quality standards will be achieved. As the comment acknowledges, with a TMDL addressing waters impaired by nonpoint sources, the decisions regarding implementation are usually within the purview of local and state governments. Under the Clean Water Act at Sec. 303(d), TMDLs shall be incorporated into state water quality management plans, and under the implementing regulations at 40 CFR 130.6, water quality management plans shall include implementation measures. Moreover, the Clean Water Act at Sec. 303(e) requires the state's planning process to include TMDLs and "adequate implementation...for revised or new water quality standards." Thus, recent EPA policy (1997) emphasizes that EPA expects states to develop plans for implementing load allocations for nonpoint sources. The policy states that EPA expects state implementation plans to include reasonable assurances that the nonpoint source load allocations

established in the TMDL will in fact be achieved. While the current EPA regulations do not include an implementation plan as a required element of the TMDL, EPA notes in the Garcia TMDL that we support the implementation and monitoring strategies developed by the State in the Strategy. In addition, EPA intends to continue to review the implementation and monitoring measures identified in the State's Strategy and to play an active role in assessing whether the measures will reasonably assure that the load allocations are met.

21. The proposed monitoring of settleable material is inadequate. I would suggest that EPA consider including turbidity monitoring which would provide a more immediate method for evaluating the results of whatever action plans to reduce upslope sediment sources that might be adopted.

RESPONSE: This comment relates to the implementation portion of the proposed State Strategy and will be forwarded to the State for its consideration.

Comments dated March 2, 1998 from Louisiana-Pacific Corporation

22. We propose that the EPA allow for adaptive management and a phased TMDL approach in the Garcia River and other listed watersheds.

RESPONSE: Although EPA's TMDL is not described as "phased", EPA fully supports the concept of adaptive management and supports the State's phased approach for the Garcia River.

23. As has been discussed in previous correspondence by L-P and others, the latest data clearly shows that today's sediment inputs from mass wasting are significantly lower then the reported forty-year average,

RESPONSE: As noted in the State's draft response to L-P (see comment #2 of the January 22, 1998 hearing draft responsiveness summary), the study conducted by O'Connor Environmental, Inc. (OCEI) does indeed indicate that sediment delivery due to landsliding decreased in the period of 1975-1996. This period roughly corresponds with the enactment of the Forest Practice Rules. It also roughly corresponds with a period of substantial drought in the which there were fewer storm events to mobilize potential sediment delivery sites. Therefore, the cause of lower landsliding rates in this period can not be conclusively determined. That said, the TMDL also recognizes that mass wasting related to timber harvesting activities is not as large a number as from other mechanisms and expected reductions from this source are lower.

24. It is important to recognize the current reduction in sediment delivery that is occurring and not confuse it with the forty-year average.

RESPONSE: The source analysis developed by PWA assesses the average sediment delivery rates for each planning watershed within the Garcia River watershed from 1957 through 1996 to provide an overview of sediment delivery in the basin. The source analysis also identified the instream stored sediment and the outputs of sediment from the system. As noted by PWA, the

instream stored sediment has the potential to inhibit recovery of the channel for decades. While there may be evidence of current sediment reductions (see response to comment 23), the total amount of sediment in the system points to the need to further reduce sediment inputs into the stream system.

25. It is equally important to accurately describe the current state of the resource when debating the implementation measures to be considered.

RESPONSE: The State developed a comprehensive assessment of watershed conditions (Assessment of Aquatic conditions in the Garcia River Watershed, NCRWQCB, 1997) (Assessment) based on the best available data. The State noted that as site specific data becomes more readily available the Strategy can be revised to reflect this data.

26. I commend EPA on their choice of numeric targets. The four targets chosen are very appropriate sediment related measurements. The use of percent fines, V* and D50 are good parameters to monitor for observing sediment related tends in stream channels. Furthermore, providing only four targets to work with is much simpler and easier for landowners to implement. It might be useful to add the use of channel cross-sections and thalweg profiles to monitor coarse sediment impacts to the channel.

RESPONSE: EPA believes that the indicators and associated targets chosen are well supported in the literature. Based on current information, we do not believe the width to depth ratio and thalweg parameters are as easily linked to salmonid conditions (see also the peer review comments dated January 19, 1998 which do not support monitoring width to depth ratio and question the use of thalweg profile since no published information has been presented). However, EPA endorses the State Strategy's provisions for monitoring a wider suite of indicators. Moreover, nothing precludes L-P from including these as monitoring parameters.

27. However, I suggest that EPA be more specific with their D50 target and specify some general locations and site conditions where a particular D50 might be expected.

RESPONSE: The State's Strategy identifies some general locations where D50 measurements should be taken. EPA believes this is sufficient. This does not preclude L-P from designing a more site-specific monitoring plan.

28. Attached is some stream sediment data L-P collected in the summer of 1997. This information was not available to you when you produced your report. We are finding that fine sediment levels in spawning gravels are consistently lower than the EPA proposed targets. This information was collected using a 12 inch McNeil sampler both inside and outside of abandoned redd sites.

RESPONSE: The EPA targets are based on a substantial review by the State of all available data and current literature. EPA believes that the targets identified in the TMDL are appropriate based on this information. In addition, the new information provided by L-P does not include enough detail for EPA to assess the relative confidence of this information for purposes of a

basin-scale TMDL. We encourage L-P to continue monitoring and sharing this information with the State to improve the TMDL over time as part of the State's phased TMDL process.

29. However, judging from the channel conditions we are observing currently the additional coarse sediments are what are creating habitat problems. Fine sediments are currently not at undesirable levels.

RESPONSE: See response to comment 28.

30. The overall point of this discussion is that stream channel conditions are not necessary showing the linkage with current upslope activities.

RESPONSE: EPA acknowledges that there may be a lag time between upslope activities and impacts from those activities appearing in the stream. To address this, the State has proposed that the numeric targets be met within 50 years of adoption of the TMDL. EPA supports this timeframe as explained in the TMDL.

31. The load allocation proposed by EPA is a reasonable one. The load allocation of 552 tons/mi2/yr is close to something that we believe can be achieved over time. However, we believe that the achievable load will be slightly higher.

RESPONSE: The loading capacity is based on a weight of evidence approach using the best source information available at this time. This number may be improved over time as more site specific source information is developed and as the efficacy of management practices are better understood.

32. Based on photo interpretation of L-P property from 1952 aerial photographs we estimated mass wasting inputs to be as high as 479 tons/mi2/yr on what is now the L-P ownership in the Garcia River. Prior to 1952 there was little forest management in this area for several decades. Thus, this rate represents what mass wasting in a unmanaged situation can be for the area. It is considerably higher than most of our current background estimates, but points out the rate to which natural mass wasting can contribute sediment in the Garcia River watershed.

RESPONSE: The source analysis developed by PWA (1997) notes that the amount of sediment inputs should be considered a minimum. Therefore, it may be likely that each category of sediment production, including natural background, could actually be higher. Without more specific information on which to base this, the PWA estimate is the best available information on sediment production for the Garcia River basin at this time.

33. The reduction of road related sediments is too high. Though it may be theoretically possible to lower road erosion by 90% as suggested by EPA, we believe that it is operationally impossible. We are not sure exactly sure how much road erosion can be reduced, but a reduction of about 50% might be something we could support.

RESPONSE: The following is the State draft response to comment #62 in the draft responsiveness summary for comments received on the December 9, 1997 State Strategy: "Given the generally limited information submitted by landowners and others for consideration in the development of the Source Assessment section of the Strategy, staff have developed a program which relies on landowners to assess potential and existing sediment delivery sites and mitigate those which are controllable. The Sediment Delivery Reduction Requirements are based on an estimate of the *likely* success of known mitigation measures to control sediment delivery from different kinds of locations across the landscape. The Sediment Delivery Reduction Requirements will be modified to reflect *actual* success once better site specific data has been submitted by landowners." EPA agrees with response.

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Comments dated February 17, 1998 from Friends of the Garcia River

34. It may be expected that the levels of sedimentation in the study are, under normal conditions (or in the light of El Nino and probable warming), too low in the study and need to be adjusted.

RESPONSE: PWA notes that the estimated sediment delivery number of 1400 tons/mi2/yr is a minimal estimate. The State Strategy requires landowners to develop site specific inventories which may provide more specific information regarding sediment delivery which could be used to amend the TMDL over time.

35. In the past few years, significant spawning has been observed in the lower Garcia River and needs to be acknowledged in the final report. The importance of the mainstem for spawning and rearing cannot be overemphasized.

RESPONSE: Significant spawning language has been added to the final TMDL under Summary of Existing Conditions, Aquatic Habitat, first sentence.

36. We feel that culverts are a major source of sediment pollution and should be considered in the TMDL process.

RESPONSE: The EPA TMDL addresses this source under the Road category.

37. We feel that a major problem that relates both to sediment and temperature in the Garcia is the lack of a viable riparian strip, both in the forested areas and the agricultural areas.

RESPONSE: The State Strategy addresses riparian area functioning through specific measures in the implementation strategy. EPA believes this is an appropriate place to address riparian functioning for this sediment TMDL.

38. In Table 9, gravel extraction is properly included but it should be noted that since the 1994 season, zero gravel has been extracted and there is neither need nor expectation that the previous level of mining will occur again.

RESPONSE: EPA reads this comment to mean that, without gravel mining since 1994, the amount of instream stored sediment will or has increased. The TMDL addresses sediment delivery from upslope sources with the goal of reducing upslope inputs so that instream stored sediment will begin to move out of the system naturally as the ratio of flow to sediment is increased.

39. To “Specific Problem Statement 5" should be added - #6. Sediment Loading of floodplains near the estuary is causing loss of wetlands and the increasing flooding of Highway 1.

RESPONSE: This language was added to the TMDL in the Instream Problem Statements, Specific Problem Statement #5.

40. In Table 3 (Summary of Instream Numeric Targets...) Class 2 streams are not included in “monitoring locations”, although it is stated elsewhere that historically fish-bearing streams are to be sediment upgraded. Class 2 should be included.

RESPONSE: EPA changed Table 3 to indicate that the percent fines targets are to be measured in both Class I and restorable Class I streams.

41. Targets for Riparian increase and shade increase along with road reduction could and should be created and the monitoring for these issues can show up in a much shorter timeline.

RESPONSE: While EPA disagrees that targets need to be developed for these parameters (see response to comment 8), EPA agrees that riparian function is a key concern; and landowners and the State may wish to include these parameters as part of a monitoring strategy to assess TMDL compliance in a shorter timeframe as noted by the commentor.

42. The omission of ten of the Numeric Targets recommended in the Attainment Strategy severely limits the tools available to determine progress toward water quality attainment. It must be remembered that the Attainment Strategy itself does not come from “best science” directed to the survival of the cold water fishery - but through a series of watering down of those methodologies. EPA needs to do more work with targets tied to actual habitat conditions (desired future conditions).

RESPONSE: See response to comments 8 and 28. In addition, it should be noted that EPA’s choice of a smaller suite of targets does not dictate a monitoring strategy. Indeed, the EPA expects that the State and landowners would consider a broader set of indicators as part of a more comprehensive monitoring plan.

43. We feel that the “strategy’s” 90% reduction from all roads and skid trails is very important element.

RESPONSE: No response necessary.

44. We feel that it is both unreasonable and irrational to have no load allocations for agriculture

related sediment from streambank and gully erosion. While agriculture is only proportionally a moderate landuse in the Garcia, we have seen large inputs of fine sediment from agricultural properties over the last 3 years amounting to over 130,000 cu. yds. These inputs would have been largely avoidable by the maintenance of riparian buffers.

RESPONSE: See response to comments 13-16. Also, we were unable to consider the need to establish load allocations for agriculture based on the limited data provided by the commentor because the technical methods/data used to calculate the agricultural-related sediment input estimate were not provided.

45. The State has suggested in the Strategy that follow-up inventories be required and storm-related hillslope targets are proposed which will help assess post-mitigation success, which we strongly support.

RESPONSE: EPA supports the State's Implementation strategy.

46. Gravel substrate targets are appropriate and necessary and that % embeddedness may be a viable target.

RESPONSE: The State reviewed the most current literature and information on embeddedness and noted that "Since embeddedness is a somewhat qualitative parameter, its reproducibility is not entirely certain, there is no final target ... proposed for embeddedness at this time." EPA concurs with the State.

47. Instream Problem Statements - Nos. 1-5 are accurately characterized, according to assessments and scientific documentation, existing conditions and instream impacts from land use activity. No. 2 should indicated that stream are currently impacted and likely to suffer additional impacts. No. 4 should indicate habitat loss due to aggradation and sedimentation causes loss of surface flow, thus pool volume, instream habitat, conductivity (ability to seek refugia), and predation exposure are all resultant problems.

RESPONSE: This language has been added to Numbers 2 and 4 of the Instream Specific Problem Statements

48. The suite of instream or near stream targets should be expanded to give greater consideration to measurable parameters that would give indications as to trends related to instream health (i.e., level of pollutants or effectiveness of limiting pollutants). As mentioned above: turbidity, embeddedness, LWD, monitoring conditions of upslope remediation or near stream riparian capacity for filtration and population counts are areas for additional targets considerations.

RESPONSE: See response to comments 2, 8, 9, 41 and 46.

49. Consideration of where measurements are to be taken must be stated: in gravel likely to be used for spawning and not in redds. Frequency of measurement and reaches to be targeted should be indicated for monitoring methodology.

RESPONSE: The State, in its monitoring plan as part of the Strategy, identifies a monitoring methodology for the State identified parameters. EPA believes this methodology is appropriate.

50. Overall average source reductions on the order of 50-60% are needed to attain the instream targets.

RESPONSE: No response necessary.

Comments dated March 2, 1998 from Leonard Leum

51. As to the TMDL, I would offer the following comments, the first being to notice its limitations in addressing what is as much a pre-existing structural issue as an issue of future sediment delivery.

RESPONSE: EPA agrees that the Assessment indicates a long period of degradation in the Garcia River system. The TMDL considers future, current and past sediment impacts which accounts for channel structure changes due to excessive sediment delivery.

52. Though it is clear that controllable inputs must stabilize at significantly reduced levels to sustain a recovery (and the TMDL may suffice in this regard), it is less clear that such a recovery has ensued or will ensue as a result; and whether in fact conditions may continue to worsen independently of anticipated reductions via systematic erosion beyond the control of land use managers.

RESPONSE: To account for this uncertainty, the State proposed to implement a phased TMDL approach, where the State and landowners will continue to monitor and review the TMDL as a means of checking whether the TMDL is meeting desired results.

53. I submit that provision for restoration, but a footnote in the Water Board's phased strategy, may represent the Coho's best chance for success, pursuant to the establishment of a credible monitoring program for the modeling and design of restorative excavations.

RESPONSE: EPA supports the State's draft response to comment 14 in the draft responsiveness summary for the December 9, 1997 draft Strategy which states: "We recognize the importance of restoration as a tool for stream channel improvement. The Mendocino County Resource Conservation District through the Garcia River Watershed Advisory Group developed a comprehensive restoration plan for the Garcia River watershed in 1992. It is entitled the *Garcia River Watershed Enhancement Plan*. Given the existence of such a comprehensive restoration strategy-- much of it already implemented-- Regional Water Board staff did not see the need to duplicate this effort. The Garcia River Watershed Advisory Group has recommended that the Regional Water Board adopt the Enhancement Plan in its consideration of the Strategy."

54. And I would expect the adequacy of protections and the efficacy of mitigations to acknowledge the episodic nature of catastrophic sedimentation and be geared to prevent such a meltdown - And to deal with one if our efforts fall short.

RESPONSE: The TMDL accounts for seasonal variations and critical conditions.

Comments dated February 4, 1998 from Marc Jameson

55. Since there appears to be no alternative to this federal action, my interest is in assuring that ALL protection measures, mitigation measures, monitoring requirements, inspection efforts, and enforcement actions BE EVENLY AND FAIRLY APPLIED across all ownerships and land uses.

RESPONSE: See response to comments 13, 14, and 16.

Comments dated February 27, 1998 from Barnum Timber Company

56. I would suggest you review the report titled "Status and Future of Salmon of Western Oregon and Northern California: Findings and Options) (Botkin, et al., 1995).

RESPONSE: Since this document was not provided, EPA did not have the opportunity to review it. EPA will consider this document in future TMDL development.

57. I believe EPA should consider the use of peak count methods as invalid for determination of coho abundance when deciding that populations are a "problem", especially in light of EPA's and NCRWQCB's reliance on such census data as provided by creel counts and the public comment of one single fishing guide.

RESPONSE: EPA believes that the information provided in the Assessment is the best available information on limiting factors for salmonid populations. Additionally, while the population counts are one factor in assessing whether the beneficial uses are being supported, just as important is the instream habitat assessment. The Assessment clearly identify impacts to instream channel conditions which directly relates to salmonid survival and success.

58. Given the likely removal of nearly all of the large organic debris in the Garcia River basin, I find it inappropriate to be highlighting instream problems in respect to fine sediment.

RESPONSE: Problems regarding fine sediment were addressed in the TMDL because the Garcia River is listed as impaired due to bottom deposition of sediment and because the literature indicates that increases fine sediment can have a detrimental affect on salmonid development, rearing and survival. The State in its Assessment identified a number of factors impacting salmonid success in the Garcia River most notably the lack of sufficient instream habitat which is attributed primarily to excessive sediment loading. Large woody debris (LWD) plays a role in channel structure and in the streams ability to process and move sediment. The State's Implementation section in the Strategy addresses measures to increase the amount of LWD over time in the watershed, to contribute to improving stream channel conditions.

59. Given the current large organic debris loading of the Garcia River, how does this relate to current fish populations?

RESPONSE: The Assessment found that instream habitat is inadequate to support salmonid populations. Included in this assessment was information on pool habitat, which is influenced by the presence of large woody debris.

60. Focusing additional resources on containing existing sediment sources which may have largely stabilized or on regulating future activities which already have a regulatory mechanism for addressing creation of new sources is not cost effective.

RESPONSE: EPA disagrees. Addressing sediment production from landuse activities, such as roads, may be the most effective approach based both on environmental results and costs. Preventing sediment inputs rather than having to come in after the sediment is in the stream makes economic and logical sense. In addition, EPA does not agree that the regulatory mechanisms in place are effective in protecting water quality.

61. The manner in which "Existing Conditions" were determined is absolutely inadequate. For example, to determine V* existing conditions, one data point was measured. Will EPA allow landowners to describe future conditions with one single point?

RESPONSE: EPA noted that the amount of existing information is regrettably limited in the Garcia River. EPA expects that as more site specific information becomes available, the TMDL could be revised to incorporate this data.

62. The dynamic nature of stream channels in respect to sediment, especially in light of large debris removal, will cast doubt upon any sediment measurements taken at any point in time. How will this allow for accurate or pertinent descriptions to be made for judging future condition or improvements?

RESPONSE: By choosing a suite of indicators and targets, EPA believes that monitoring over time will provide a general picture of whether the TMDL is being met and the stream system is recovering. In addition, using approaches, such as a weight of evidence approach, may be a way to account for temporal and spatial variability in monitoring information.

63. If decline in fish populations is the reason for listing the Garcia River and requiring a TMDL for sediment, there should be at least be a clear and proven cause and effect relationship established before setting targets for the future.

RESPONSE: The information provided in the Assessment as well as the literature cited in the State's Strategy clearly identifies problems associated with optimum instream habitat for salmonids and the amount of sediment which is entering the stream system.

64. Given that sediment yield rates for other north coast streams are as much as nearly five times greater (e.g., Redwood Creek, Humboldt County), and many may have relatively better fish populations than the Garcia River, how will the reduction of sediment input by any amount necessarily increase substantially the fish populations?

RESPONSE: The TMDL establishes targets for indicators that reflect optimum habitat for salmonids. If, for some reason, fish populations do not appear to be responding to improved instream habitat, it may be presumed that factors other than sediment could be contributing a greater proportion to the decline in fish populations. In addition, without knowing more about specific watershed attributes and landuse activities, it may be difficult to compare other watershed fish populations to those found in the Garcia River.

65. I believe that the limiting factor to fish populations today is the lack of large woody debris in the streams. If EPA has the objective of improving fish populations, then they should institute a program of re-introduction of large woody debris funded by those responsible for its removal. Please address the role of large woody debris in relation to the metrics described in "Targets" and "Linkage of Sediment Source Reductions to Instream Conditions" sections.

RESPONSE: See response to comment 58.

Comments dated February 27, 1998 from Dennis Jackson

66. On page 12, the EPA TMDL document states: "The Source Analysis developed by Pacific Watershed Associates (1997) indicates that overall sediment production rates have decreased throughout most of the Garcia River basin, especially between 1978 and 1997. The greatest reductions appear to be associated with landslide processes and surface erosion on skid trails." My analysis indicates that these improvements are due to the advent of drier weather. The data show that after 1975 there was fundamental decrease in the amount of material being delivered to the channel. The decrease in material delivered to the channel is primarily due to the series of dry years. The dry period continued to 1993 when a 3.2-year event occurred. The 1995 and 1997 seasons were quite wet and it is likely that a significant amount of material was delivered to the channel. The 1998 season also is proving to be very wet and should deliver a significant load to the channel. If wet years continue to occur, it is my opinion, that the improvements in channel conditions cited in the EPA TMDL will be reversed.

RESPONSE: EPA notes in the TMDL that during the past 10 years, approximately 43% of the Garcia River watershed has experienced a renewed period of timber harvesting and road reconstruction. Coupled with the information presented by the commentor above, it is possible that the sediment source analysis developed by PWA may be underestimating the actual sediment that may be entering into the river. To account for this uncertainty, EPA provided an implicit and explicit margin of safety. In addition, as part of the State's phased TMDL approach, landowners will be monitoring the instream and hillslope conditions to determine whether the TMDL is being met over time.

67. The sediment budget developed relies heavily on aerial photo interpretation. A recent study of landslides in Oregon showed that aerial photo interpretation can seriously under-estimate the number of slides in a watershed. In one case, aerial photos showed only 25% of the slides found by field investigators.

RESPONSE: The PWA source analysis was developed using a Level I watershed analysis

approach for the entire Garcia River basin, which is a generally accepted method for watershed-wide analyses. PWA also noted that the sediment information provided by L-P is presumed to be more reliable due to the field work associated with their aerial photo review. This information was only available for a sub-set of basins in the Garcia River watershed. PWA notes that the total sediment delivery estimate is a minimum and it is presumed that as more site specific inventories are completed, that the overall sediment estimate number may be refined. EPA has not had the opportunity to review the Oregon study to determine the methods and assumptions used in the study or the applicability to Northern California streams.

68. The EPA TMDL document mentions the Redwood Creek sediment budget studies but does not adequately explain why erosion rates in Redwood Creek are higher than the other studies cited. I suspect that the level of field investigation used in the Redwood Creek study was substantially higher than in the other studies. If this is the case, the Redwood Creek study may be closer to the true erosion rates in the Garcia River than the other studies. Consideration should be given to using higher erosion rates when calculating the TMDL.

RESPONSE: While EPA acknowledges that field work may provide higher sediment budget estimates, the lack of Forest Practice Rules may actually be the cause for higher Redwood Creek sediment data. PWA notes in their analysis that "The Redwood Creek budget covers a period of time where, for all intents and purposes, there were few or no modern Forest Practice Rules in effect. We acknowledge that the Redwood Creek unit sediment yield rates are higher than what is realistically expected to be occurring in most northern California watersheds over the last two decades. However, the percentages from the various sources may be a fair representation of where and how sediment is being produced today."

69. Excluding dry years from the calculation of average annual sediment delivery might give a more meaningful estimate of the TMDL.

RESPONSE: EPA believes that looking at the long term overall sediment budget (1952-1997) accounts for variability in climatic conditions.

70. An aggressive program of identifying and correcting forestry generated erosion problems is needed.

RESPONSE: EPA believes the State's proposed implementation approach in the Strategy contains the appropriate elements for identification and mitigation of sediment sources related to forestry, agriculture and other land uses which contribute to overall sediment production in the watershed.

71. It is my opinion that the approach taken in developing the EPA's TMDL for the Garcia River is reasonable. However, the TMDL targets might prove to be low. Recalculating the targets with sediment delivery rates closer to those suggested by the Redwood Creek study and excluding dry years when calculating averages might produce more realistic targets.

RESPONSE: The targets were developed based on the best sediment source, instream and

literature data available. The State has proposed using a phased approach for this TMDL which will allow for improvements in targets as more site specific sediment and instream data becomes available.

Comments dated March 2, 1998 from the Sierra Club

72. We were disappointed to see the RWQCB drag their feet in making a decision and therefore are strongly encouraging the EPA to follow through on your responsibility under the Clean Water Act and ask that you ensure state compliance with the TMDL process. We want the state of California to implement the Garcia TMDL, and we want to ensure monitoring of the process to make sure it is working.

RESPONSE: EPA agrees that it is the State's responsibility to implement TMDLs. Upon completion of the TMDL adoption process, the EPA expects the State to incorporate the TMDL along with an implementation (and monitoring if it is a phased TMDL) strategy into the Basin Plan.

73. While we believe some components of the Garcia TMDL could be improved such as the targets for suspended sediments and monitoring of riparian targets (please note our support of these changes outlined in the Coast Action Group's submitted comments) and including temperature as a pollutant, overall we support the adoption and call upon the EPA to make it happen.

RESPONSE: With regard to targets for suspended sediment see response to comment 2. With regard to monitoring riparian targets, see response to comment 41. With regard to including temperature as a pollutant, EPA supports the State's draft response to comment 2 in the draft responsiveness summary for the October 10, 1997 draft Strategy which states: "The watershed assessment conducted for the Garcia River watershed provided evidence that elevated temperatures, in addition to sediment, are impacting the cold water fishery. The Regional Water Board listed segments of the Garcia River as impaired due to elevated temperatures at its December 11, 1997 public hearing. While the Regional Water Board has the authority to develop a water quality attainment strategy for any parameter which it believes is impacting beneficial uses, the schedule for hearing the proposal to list the Garcia River for temperature came at such a time that waiting for the outcome of the hearing appeared prudent. In addition, EPA does not have the legal authority to establish TMDLs for pollutants which are not currently identified on the State's 303(d) list. The State's 1996 Section 303(d) list only identifies siltation as the pollutant of concern in the Garcia River."

Comments dated February 24, 1998 from the City of Point Arena

74. The City Council supports the proposed Garcia River Sediment Total Maximum Daily Load (TMDL) prepared and circulated by the U.S. EPA January 29, 1998.

RESPONSE: No response necessary.

75. This TMDL, based on the Attainment Strategy developed by the North Coast Regional Water Quality Control Board, is a strong and well researched document. The numeric targets that are included have adequate values to sustain a cold water fishery and are based on the best science available. Though the overall sediment yield budget and the estimation of loading capacity are probably underestimated, the associated load allocations have included a large enough margin of safety that they should be adequate to meet the water quality standards.

RESPONSE: No response necessary.

76. While we support this TMDL for the information and values that it does contain, the omission of ten of the Numeric Targets recommend in the Attainment Strategy severely limits the tools available to determine progress toward water quality attainment.

RESPONSE: See response to comment 8.

77. By choosing only these numeric targets the following important functions recognized in the "specific problem statements", are NOT considered: barriers to migration, pool quality and quantity, impairment of riparian zone and channel stability.

RESPONSE: See response to comments 3, 4, 8, 9, and 41.

78. Additionally the extent of embeddedness in Class 1 streams may not be adequately addressed by the percentage of fines target.

RESPONSE: See response to comment 46.

79. Furthermore, as noted in the TMDL, V* and D50 will not show statistically different results for up to 40 years or more after the current disturbance has been mitigated. This is not an appropriate measure to track improvement towards water quality attainment, it will however, illustrate the extent of existing impairment and is important for a baseline measurement.

RESPONSE: EPA acknowledges that there is no guarantee on how quickly instream indicators will show a response to upslope activities. However, it is possible and EPA expects that, depending on various factors such as flow, improvements in trends may be seen much earlier than 40 years using these indicators.

80. The values given the numeric targets in this TMDL are already the result of a compromise - any further compromise would jeopardize the chance of salmonid survival.

RESPONSE: EPA is establishing TMDL targets based on an extensive literature review and review of existing information for the Garcia River. EPA believes these targets are set at appropriate levels to support beneficial uses.

81. In conclusion, while we support this proposed TMDL we request the EPA consider the

reinclusion of some of the numeric targets that will be necessary to measure improvement in each of the specific problem statements.

RESPONSE: Based on comments, the EPA has added a target for pool frequency to address concerns directly related to rearing habitat.

Comments dated March 2, 1998 from the Northcoast Environmental Center

82. We would urge that the EPA soon develop and integrate a temperature TMDL for the Garcia River as well.

RESPONSE: See response to comment 73.

83. Measurable standards should be a part of a TMDL strategy and that strategy should be incorporated in the NCRWQCB's basin plans.

RESPONSE: As part of the TMDL document, the EPA has developed numeric targets which are meant to interpret and apply applicable narrative water quality standards and provide a basis for determining whether the TMDL allocations are being met. The regulations at 40 CFR 130.7 indicate that the State is expected to incorporate the TMDL and into its current water quality management plan (in the case of California the Basin Plan).

84. Whatever plan is chosen to remediate these watershed level problems, it must include an ongoing monitoring program that 1) collects baseline data on ambient physical, chemical and biological conditions; 2) monitors the implementation of best management or attainment practices (BMPs); and that 3) evaluates the effectiveness of BMPs.

RESPONSE: The State has proposed the Garcia River Attainment Strategy as a phased TMDL. EPA guidance (1991) indicates that phased TMDLs should include a monitoring plan and review schedule. The Strategy included a monitoring strategy which would meet the three monitoring areas identified in the comment. EPA supports the State's phased approach.

85. Watershed analysis must identify sensitive riparian areas, erosional features and sites of potential or active mass wasting in order to inform the TMDL and ESA strategies for healing our ailing watersheds.

RESPONSE: The Assessment and the Source Analysis provide analysis of the watershed including, to the extent information was available, the features identified in the comment. The State in its Strategy has indicated that more site specific information will be developed by landowners including site specific sediment inventories.

Comments dated February 26, 1998 from Coast Action Group

86. The water quality objectives addressed include settleable material and sediment. Not included in the EPA discussion and targets is a substantial limiting factor noticed in the

watershed, suspended sediment load and suspended sediment discharge - turbidity. This factor is noticed as controllable in the Basin Plan Objectives and could possibly be part of a measurable allocation and targets program.

RESPONSE: See response to comment 2.

87. Factors not part of the targets suite and could possibly be added: pool depth, pool/riffle ratio, large wood debris, and % vegetated stream banks.

RESPONSE: See responses to comments 3, 4, 9, and 41.

88. The EPA TMDL states that "The Source analysis developed by PWA (1997) indicates that overall sediment production rates have decreased throughout most of the Garcia River basin, especially between 1978 and 1997. The greatest rate reductions appear to be associated with landslide processes and surface erosion occurring on skid trails. The data suggests that only modest gains have been made in reducing fluvial, mass movement and surface erosion from roads." The above statements should be analyzed in context of major rain events - as study period was one of mostly drought and continued large scale events could change real or perceived sedimentation rates.

RESPONSE: See response to comment 66.

89. The EPA TMDL notes that "PWA also noted that during the past 10 years, approximately 43% of the Garcia River watershed has experienced a renewed period of timber harvesting and road reconstruction." The above statement should consider intensity of previous activity in light of current proposed activity, including new roading, reconstruction, frequency of watercourse crossing, and the potential of land based operations to produce additional sediment. Is the 43% figure based on total watershed area? What is the percentage of activity in forest production areas over different periods - including newly proposed operations? These areas subject to new individual and incremental should be, but are not, Considered in Cumulative Impact Analysis.

RESPONSE: On page 9 of the PWA Garcia River Sediment Source Analysis (1997) PWA states that "(it is noteworthy that during the past 10 years, approximately 43% of the Garcia River watershed has experienced a renewed period of timber harvesting and road reconstruction)." This statement does not provide further explanation to indicate whether the attributes listed in the comment were addressed by PWA.

90. Instream Problem Statements - Nos. 1-5 accurately characterize, according to assessments and scientific documentation, existing conditions and instream impacts from land use activity. No. 2 - should indicate that streams are currently impacted and likely to suffer additional impacts. No. 4 - should indicate habitat loss due to aggradation and sedimentation causes loss of surface flow, thus pool volume, instream habitat, conductivity (ability to seek refugia), and predation exposure are all resultant problems.

RESPONSE: See response to comment 47.

91. Upslope Problem Statements - Nos. 1-4 are accurately characterized, according to assessments and scientific documentation, existing conditions and sediment production from land use activity. More discussion of these factors should be provided (possibly new statement #5): contributions from operations on hillslopes resultant from root mass reduction and soil and slope instability, other disruptive treatments on operations that induce ground disturbance and surface erosion resultant from timber harvesting practices, propensity for road and skid trail to intercept water flow regimes and cause concentration of water and erosive effects and destabilization of soils or slopes.

RESPONSE: EPA believes the Upslope Problem Statements are sufficient as written.

92. It is suggested, that for greater consideration- faster and more useable response and feedback, that the suite of instream or near stream targets be expanded to include measurable parameters that would give indications as to trends related to instream health (i.e., level of pollutants or effectiveness of limiting pollutants. As mentioned above, turbidity, embeddedness, LWD, monitoring conditions of upslope remediations or near stream riparian capacity for filtration are areas for additional targets considerations. Please make reference to earlier papers on these subjects, Targets and Implementation matrix, previously submitted to the NCRWQCB by Coast Action. (Included in the Coast Action Group Comment submittal was an attachment titled "Targets Proposal in Matrix Format for Targets Committee submitted by Alan Levine June, 1997".)

RESPONSE: EPA considered the attachment from the commentor. While EPA recognizes that the attachment is comprehensive in identifying numerous interim and final targets and implementation measures, EPA believes the targets in the TMDL are sufficient for TMDL establishment. EPA will also consider the attachment as part of a more detailed review of the State's implementation and monitoring strategy. See response to comments 2, 9, 41, 46, and 73.

93. The 14% fines target for percent fines <0.85 are supported by the literature, while this target is somewhat higher than the literature suggests, existing conditions in the Garcia suggest that 14% fines <0.85 mm is appropriate. However, consideration of where measurements are to be taken must be stated in gravel likely to be used for spawning and not in redds. Frequency of measurement and reaches to be targeted should indicated for (future) monitoring methodology.

RESPONSE: See response to comment 49.

94. It was pointed out that estimates were based on a series of low rainfall years, drought. The level of intensity of operations on timber lands and their effects may be underestimates. That there is yet a significant amount of stored sediment and aggradation in the upper tributaries waiting to be mobilized.

RESPONSE: See response to comments 38, 66, and 67.

95. While these comparisons (reference stream comparison within the Linkage Analysis section) are helpful and suggestive it must be remembered that the rainfall periods for all of these studies

were historically low - on average. And, the individual characteristics of the various watersheds lend themselves to difference in sediment production and transport (e.g., hydrologic, geomorphic, average slope, residual vegetation cover, intensity of land use activity).

RESPONSE: EPA believes that the sediment source analysis accounts for temporal variabilities by covering a 45 year period. In addition, while EPA agrees that there may be watershed differences, the watersheds chosen were the most directly comparable watersheds given their location on the north coast and similar geologic features and landuses.

96. The above noted linkages and proposed reduction over time by % (Number three in Linkage Analysis) are justifiable on the basis of the available information, appropriate, reflect locally appropriate values, and can be reasonably accomplished.

RESPONSE: No response necessary.

97. The EPA noted that "Production of sediment from forestry-related activities is thought to have declined sharply in most sub-watersheds from 1978 to 1997 due to improvements in forestry practices over this timeframe." This may be a weather related anomaly - in total or partial - yet this preceding statement needs to be supported by evidence to be supportable.

RESPONSE: The sediment analysis by OCEI found this reduction in mass wasting related to timber activities (1997). See also response to comment 66.